

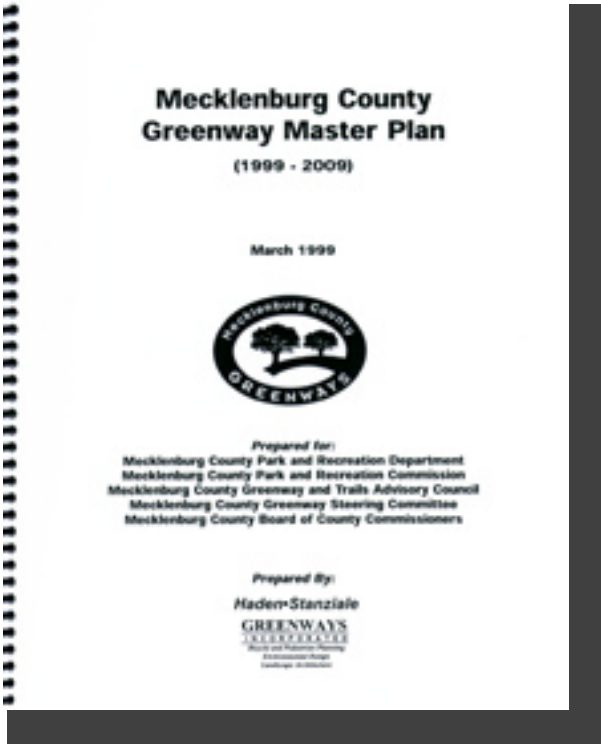
# GENERAL PLANNING & DESIGN GUIDELINES

## PURPOSE

The Little Sugar Creek Master Plan, including the Design Guidelines, is a general tool for development of Little Sugar Creek Greenway and other proposed development along the creek and greenway. The scope of the Design Guidelines is not comprehensive, but rather supplements the guidelines in the Mecklenburg County Greenway Master Plan and the Park Design Standards. The content of the Master Plan is not intended to preclude the requirements of any city, state, or federal ordinance. The Master Plan is intended to provide a direction for the orderly development and overall character of the Little Sugar Creek Greenway corridor. If the design guidelines in the Master Plan differ from guidelines included in any previously adopted plan, the most restrictive guideline shall apply.

## overall trail guidelines

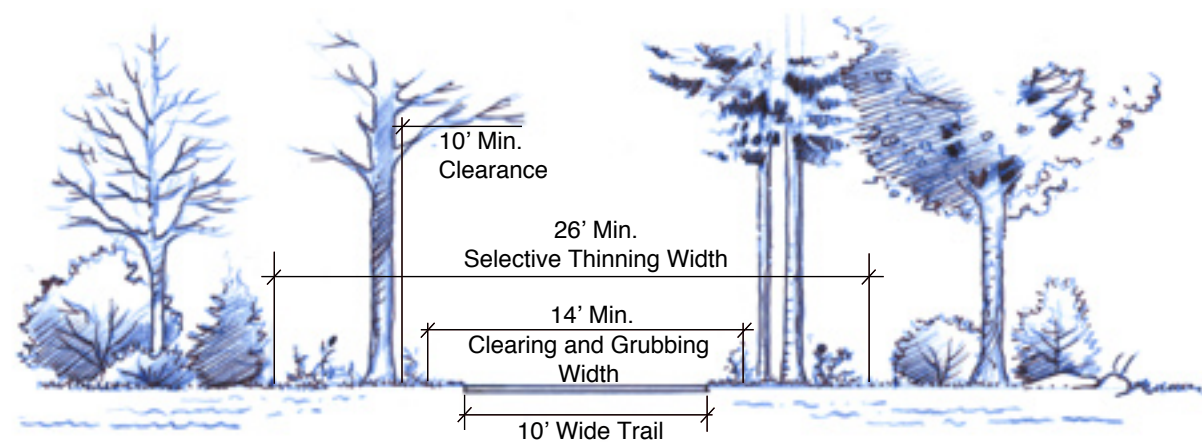
- Lighting will be included only in urban areas and primary trailheads. Other areas will not typically be lit.
- Signage shall be coordinated with Master Greenway Signage Guidelines. Signage should be kept to a minimum to avoid visual clutter. To supplement informative/educational signage, it is suggested that tour guides (booklets) be produced. These could be used for group or self-guided tours. Topics might include Native American history, mill structures and history, neighborhood history, native plants and wildlife, or water quality issues.
- Public art shall be incorporated along the greenway, reflecting the history of Native Americans. The greenway art would tell the history of the Catawba and Cherokee Nations in relation to Little Sugar Creek.
- The design and components of each reach in terms of exact locations shall be based on community input.
- The materials used are meant to reflect the “nature” of the place-mixture of wood, stone, and metal.



1) Signage should be kept to a minimum to avoid visual clutter. 2) Example of art in the landscape. This photograph is of “Pacific Grass” by artisan Kon Dimopoulos in New Zealand (Wellington Sculpture Trust). 3) This photograph is of the Outdoor sculpture complex at the University of British Columbia Museum of Anthropology, which exhibits West Coast Aboriginal art (Museum of Anthropology).



Clearing Standards Elevation



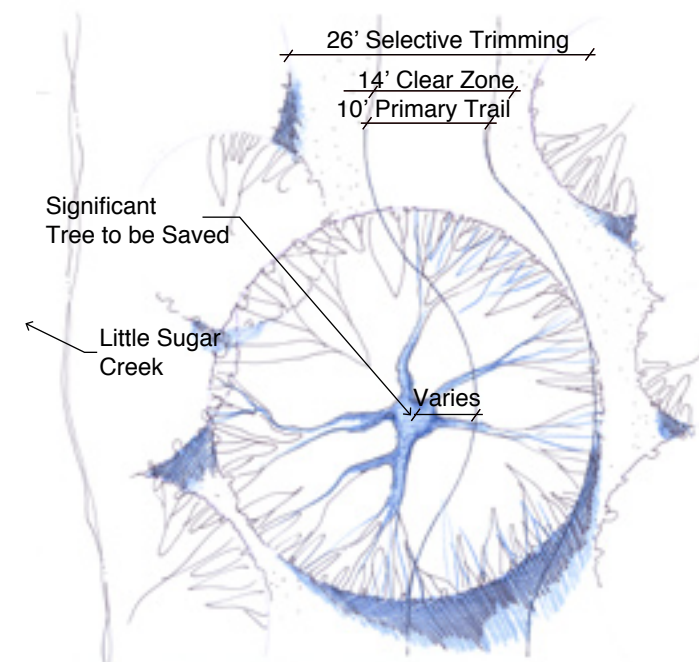
## CLEARING & DEMOLITION

Throughout the length of the Little Sugar Creek Greenway, it will be necessary to clear vegetation and demolish structures in order to provide the amenities set forth in the Master Plan. Since it is a goal of the project to protect the environment and improve the ecological, hydrological, and recreation value of Little Sugar Creek, the importance placed upon tree preservation and environmental protection is very high.

The following is a list of standards and goals related to clearing and demolition for the purpose of creating greenway amenities:

- Tree protection fencing and limits of disturbance shall be set and inspected prior to any clearing or demolition activities along the greenway.
- All existing natural and man-made cultural assets such as (but not limited to) Natural Heritage inventory sites, historic sites, cultural landmarks, and significant views shall be identified and protected.
- Compliance with all governing regulations regarding environmental protection shall be required. This includes erosion control, water quality, NCDENR requirements, and others depending on the location along the corridor.
- All riparian buffers shall be preserved.
- Clearing standards shall relate to the type of trail being installed and shall be as follows:
  - For a 10-foot wide trail, clearing width shall be 14 feet (7 feet each side of trail centerline). An additional 6 feet of selective clearing and thinning of wooded areas shall be required, creating an overall width of 26 feet of disturbed area along the trail centerline.
  - In urban areas, the clearing width and heights shall be determined on a case-by-case basis.
  - All debris, creek obstructions, garbage, hazardous materials, dumped items, and unneeded or abandoned structures shall be removed from all greenway property.
- All pruning is to be done in accordance with the National Arborist Association and ANSI A300-1995 standards. No topping off, rounding over, stub, or flush cuts to trees on greenway property shall be permitted.
- Where possible, invasive species shall be removed, and species known to have invasive growth habits shall not be planted along the greenway. See the Landscaping Guidelines section for more information.

Clearing Standards Plan



## GRADING, EARTHWORK, & DRAINAGE

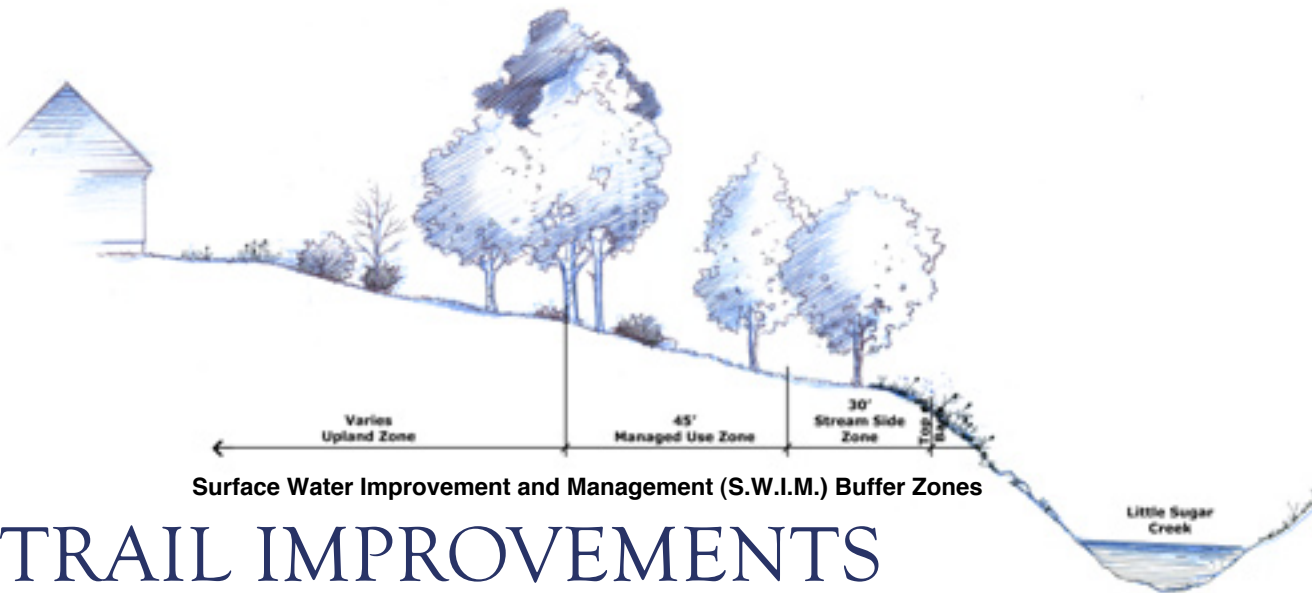
As the goal in developing the Little Sugar Creek Greenway is to create a natural trail system, it is important that grading and earthwork be kept to a minimum. Grading will occur only as necessary to create the trails, trail connections, and associated amenities. General guidelines concerning grading, earthwork, and drainage are as follows:

- All grading activities along the greenway shall follow all jurisdictional permitting requirements related to the specific section of the project and shall be determined on a case-by-case or project-by-project basis.
- Filling of the floodplain or wetlands associated with this project will not be permitted unless doing so provides the best alternative for the greenway in terms of safety, water quality, and stream bank restoration activities. In all cases, placing fill in the floodplain shall be conducted in strict compliance with local and state regulations and procedures.

### regulatory bodies

Federal Emergency Management Agency (FEMA)  
United States Army Corps of Engineers  
Mecklenburg County Land Use and Environmental Service Agency (LUESA)  
City of Charlotte Storm Water Services  
North Carolina Department of Environmental Protection  
Mecklenburg County Park and Recreation





# TRAIL IMPROVEMENTS

The main feature of this project, aside from Little Sugar Creek itself, is the greenway trail. There are two main types of trail designated for the Little Sugar Creek Greenway: Primary and Secondary trails. Below is a list of general requirements pertaining to all trail types, followed by more specific guidelines for each trail type.

- All trails shall be aligned parallel to the creek. Where necessary, the trail should be situated in order to minimize root damage to existing trees.
- Textural and color changes should be used in accordance with ADA standards to accommodate persons with sight and sound impairments at all locations where trails cross vehicular areas such as streets and parking lots.
- All trails shall meet or exceed local, state, and federal design standards for public trails.
- Trail alignment should take advantage of any rock outcroppings, free flowing waters and riffle pools, significant tree groves, and areas deemed to have natural or historic significance as well as any other natural or manmade assets and significant views. For example, a length of trail could meander in order to expose a trail user to a historic marker or a significant view.
- In accordance with County standards, all greenway trails shall be limited to non-motorized users such as walkers, joggers, and bicyclists. Vehicular access will be limited to maintenance, police, and emergency vehicles, and pavement design for the trails shall be such that these vehicles can be accommodated.
- Trail location preference shall be in the managed use and upland zones of the S.W.I.M. buffer. Avoid locating the trail in the stream side zone.
- Where available and deemed adequate, utilize existing sanitary sewer easements for trail alignments.
- Where access is limited, trails may be located on existing public sidewalks and bike lanes. In the future, when a trail along the creek becomes feasible, it should become the preferred route.
- Avoid locating trails on saturated soils.
- Avoid removing significant trees through the location of the trail.
- Handrails shall be provided at all locations where a grade differential of 30 inches or greater occurs and shall meet or exceed ADA, North Carolina State Building Code and Park and Recreation guidelines. Railings shall follow the Little Sugar Creek Greenway imagery.

## primary trail guidelines



Along the majority of the greenway the primary trail will be 10-14 feet wide and asphalt.



Greenway trail will be concrete or pavers in urban areas.



Trail will be boardwalk when it is located in the streamside zone (within 30 feet of the top of bank, and in sensitive areas.

### definition

Major greenway trail along entire length of the Little Sugar Creek Greenway.

### materials

Asphalt is the preferred material.

Concrete, brick, and pavers are acceptable materials for urban areas.

Gravel or porous concrete may be approved for some locations.

Wood or similar recycled material is preferred for boardwalk trails in naturally sensitive areas and typically in locations where the trail is within 30 feet of the creek bank (streamside zone).

Railing materials along boardwalks shall match that of the boardwalk. Railings located in areas not associated with the boardwalks shall be hollow tubed steel, color to match that of site furnishings.

### scale

Standard trails shall be 10-14 feet wide to accommodate pedestrians and cyclists.

Trails in urban locations areas where there are high concentrations of uses shall be a minimum of 15 feet wide.

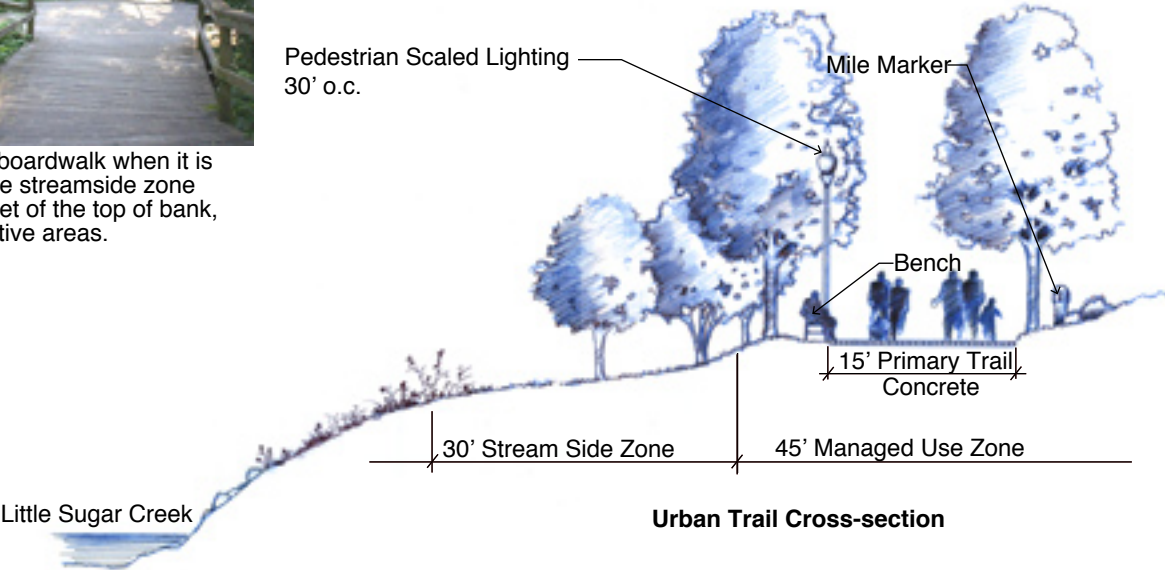
Boardwalks shall be a minimum of 10 feet wide.

### design

Asphalt trails should be generally located outside of the streamside zone.

When boardwalks are necessary in the streamside zone, the length of boardwalk in this zone should be minimized.

Primary trails shall have mile markers every 1/4 of a mile.

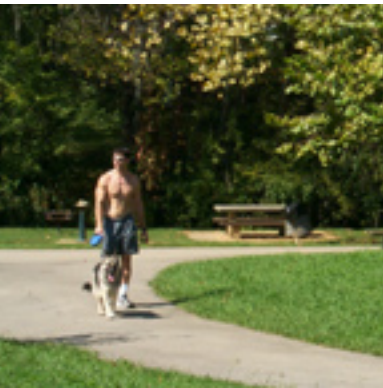




# secondary trail guidelines



Secondary trails connect neighborhoods to the greenway



Secondary trails also lead to parking at primary trailheads, playgrounds, and facilities.

## definition

Trails that connect the primary greenway trail to adjoining neighborhoods, schools, viewing/overlook areas, amenities along the greenway, primary trailheads, and points of interest. Secondary trails also include informal, off-line trails such as cross-country running trails.

## materials

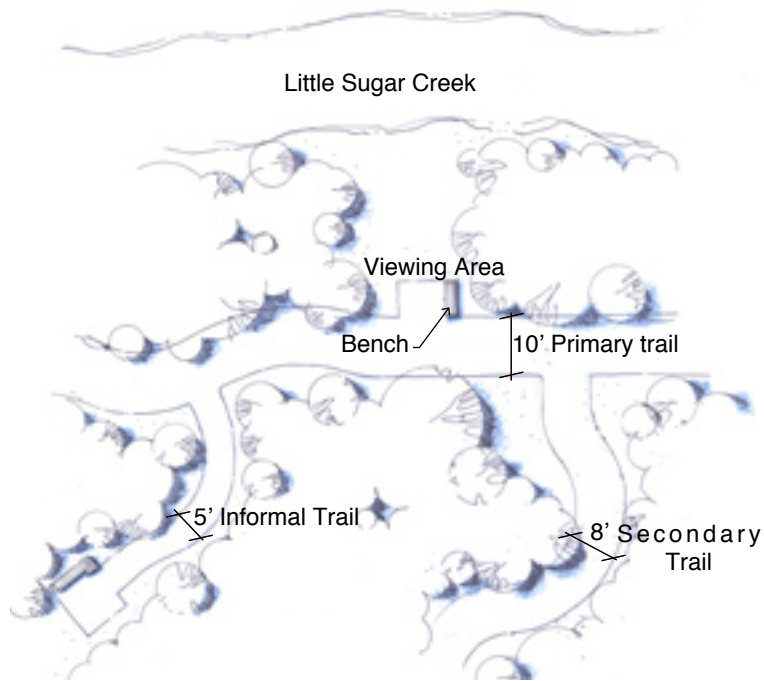
Concrete is the preferred material.

Asphalt, screenings, or dirt may be used for informal trails that lead to viewing/overlook areas (outside of the streamside zone.) Secondary trails in the streamside zone shall be boardwalk.

## scale

Standard width shall be 8 feet.

5-foot widths may be used for informal trails leading to viewing/overlook areas.



Secondary Trail Plan

Secondary trails can also be informal trails such as cross-country running trails and trails to viewing areas.

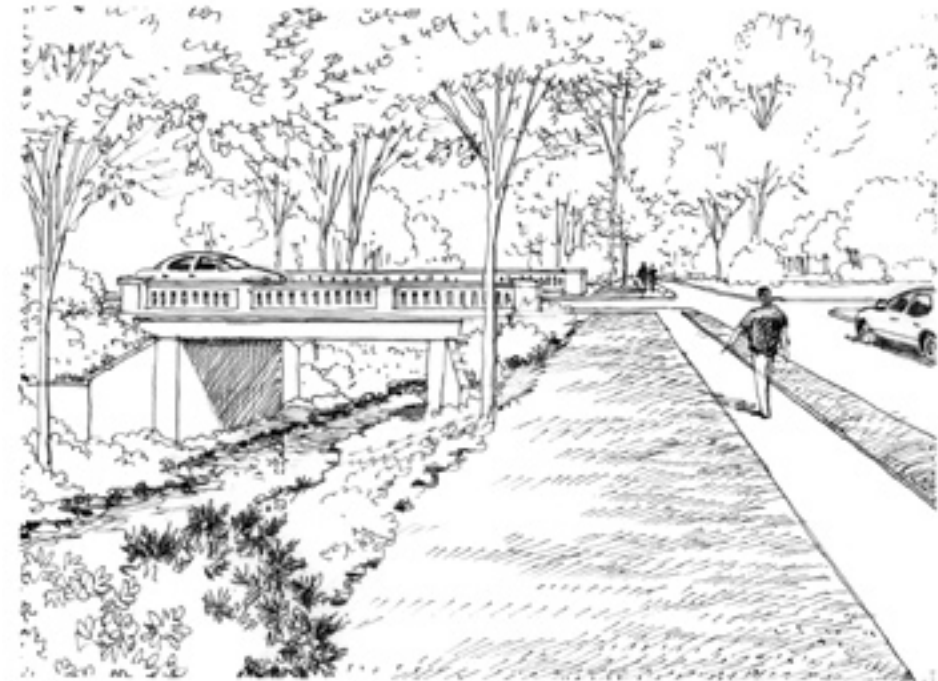
# alternate trail guidelines



Alternate routes use existing sidewalks along streets.



Trails located parallel to streets often require improvements to meet trail safety standards.



## definition

Alternate trails are those that utilize existing city streets and sidewalks for access where difficult site conditions make it necessary.

## materials

Utilize and upgrade existing sidewalks, matching materials already in place.

Curb ramps and crosswalk striping materials shall meet all applicable codes (ADA, CMLDS, CDOT, and NCDOT) specific to each improvement area. Bicycle routes shall conform to AASHTO Guidelines and be coordinated with the CDOT Bicycle Coordinator.

## scale

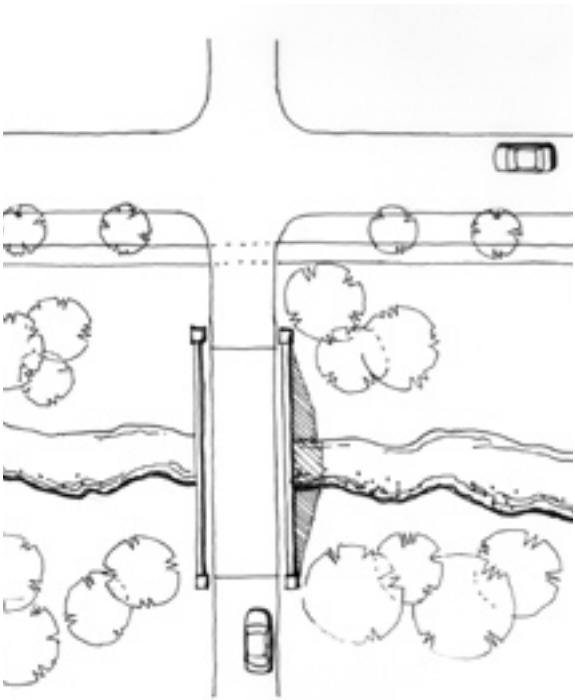
Minimum width shall be 5 feet, meeting or exceeding ADA requirements.

Ideal width is 10 feet for mixed use trail.

## design

The design of these trails is not part of the greenway trail design. The alternate trails are identified as a means of ensuring accessible connectivity. These alternate routes may need improvements to offer the ideal connections.

The goal of identifying these routes is to suggest important areas for the various City and County departments to prioritize bicycle, streetscape, and sidewalk improvements.



Alternate trail

The purpose of alternate trails is to ensure ADA accessibility or provide a trail option.

# overlook & viewing area



The size of viewing areas along the greenway will vary.



Overlook and viewing areas will be boardwalk when located in the streamside zone (within 30 feet of the top of bank, and in sensitive areas).

## definition

A flat, paved, or boardwalk area that allows greenway users to rest, observe, and enjoy such things as rock outcroppings, free flowing waters and riffle pools, significant tree groves, and areas deemed to have natural or historic significance.

## materials

Preferred materials shall be consistent with adjacent trail material, but will typically be asphalt or decking, allowing access to all users.

## scale

Observation areas should be a minimum of 60 square feet, with typical sizes ranging from 6 feet by 10 feet to 8 feet by 8 feet or larger where deemed necessary.

Resting areas along the primary trail may be smaller.

## design

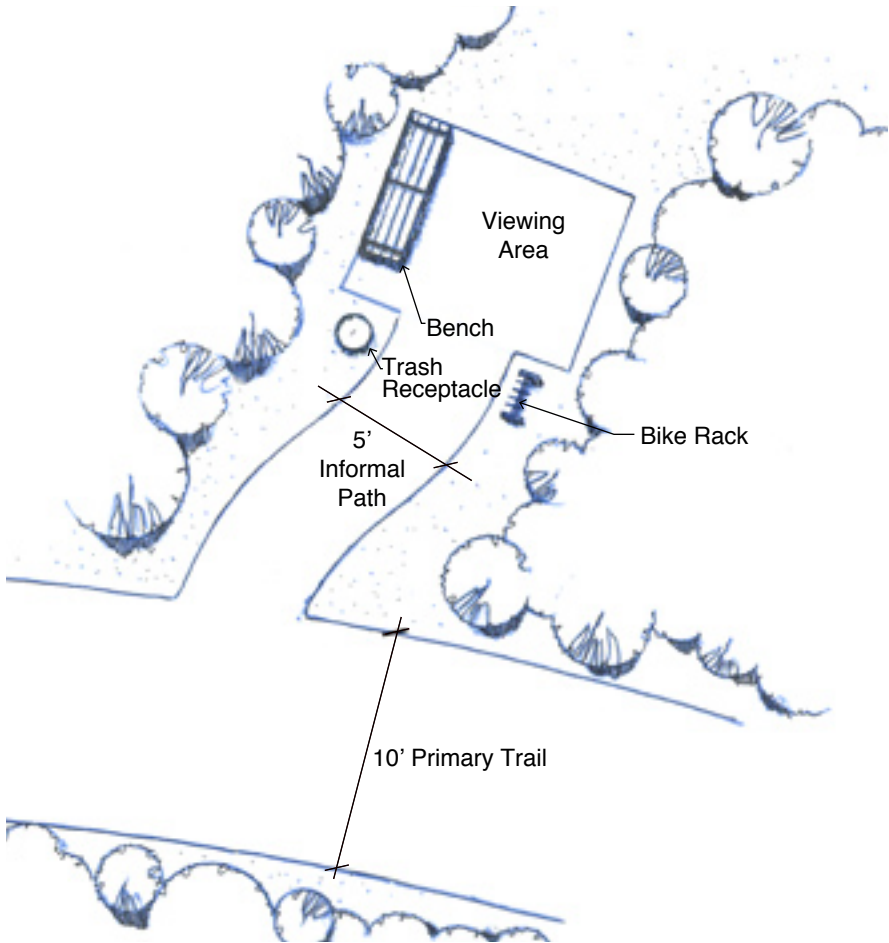
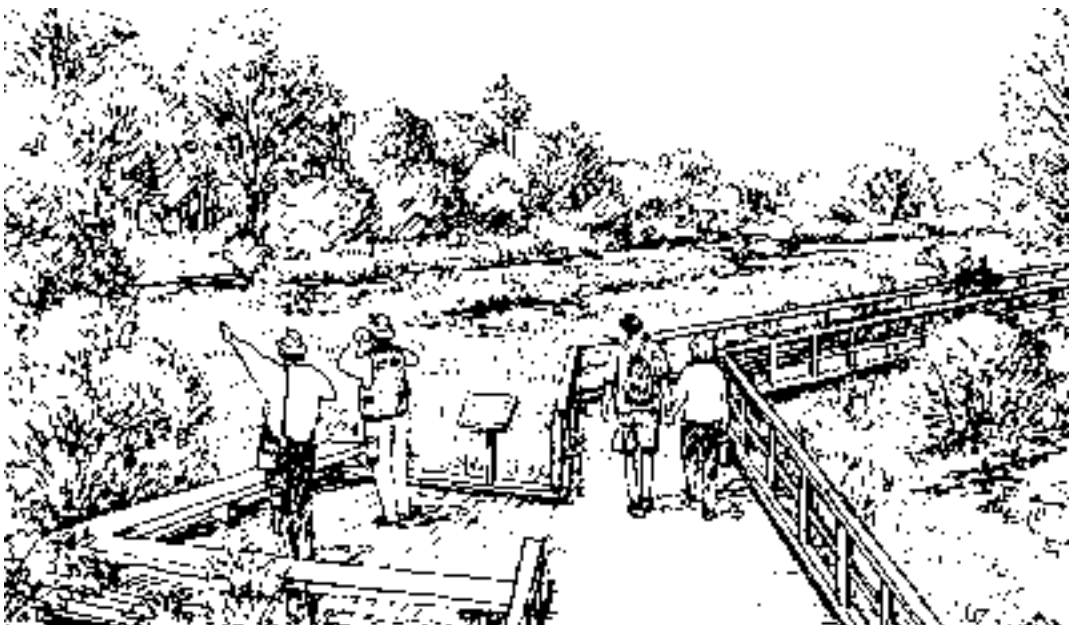
Observation areas should be designed to accommodate pedestrians and cyclists. This includes adequate circulation space, bench seating, 'leaning' rails where useful, and bike racks.

Rails shall be included if the structure is 30 inches above ground level.

Educational signage should be incorporated where applicable.

Secondary trail of a minimum width of 5 feet will lead to the viewing area that is off-line from the primary trail.

Resting areas must keep the rester clear from other greenway traffic.





# primary trailhead



Parking shall be available at primary trailheads.



Primary trailheads will have a manicured look. See page 73 for landscape guidelines.

## definition

Designated major public access points along the greenway connecting major roadways and activity centers to the greenway system.

## materials

Pedestrian path materials will be consistent with adjacent existing sidewalks.

Parking areas must be paved or gravel.

Bike racks, benches and trash receptacles shall be provided.

## scale

Scale shall be determined on a case-by-case basis.

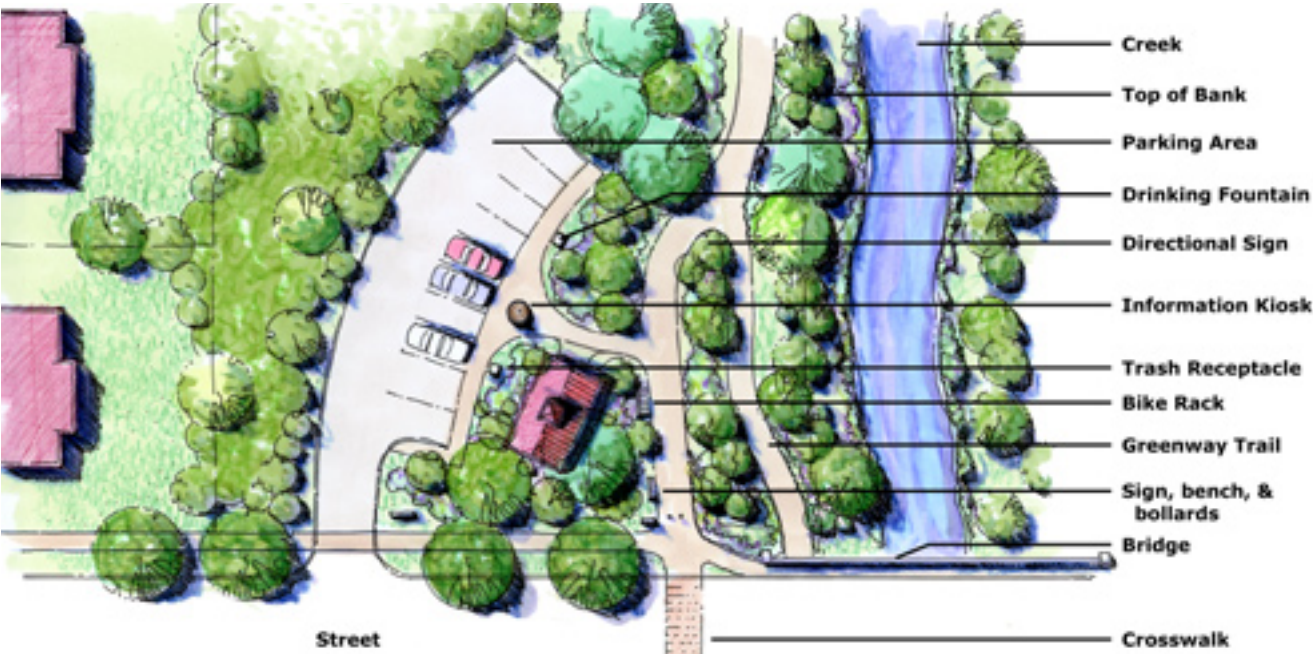
## design

Bike rental and concession stands may be provided in key locations such as the Regional Greenway Welcome Center at the southern end of the greenway.

Restroom facilities should be provided at existing and proposed County park locations adjacent to the Little Sugar Creek Greenway.

Parking shall be provided if none is available. Shared parking should be negotiated at existing and proposed civic buildings, museums, shopping centers, and public and private recreation facilities.

Other facilities include landscaping (see page 73), public art, drinking fountains, bollards, trash receptacles, benches, signage, information kiosks, and lighting.



This illustration depicts the components typically found at a primary trailhead. Concessions and restroom facilities are located at some primary trailheads, but not all of them. Consult the Greenway Master Plan chapter to determine.

# secondary trailhead



Secondary trailheads are less formal than primary trailheads and smaller in scale.



Main secondary trailheads will receive more attention in terms of landscape treatment and signage.

## definition

Designated minor public access points along the greenway connecting minor roadways and neighborhoods to the greenway. These access points may be located off Primary or Secondary trails, and may be located at some mid-block trail and roadway intersections. (See Trail and Roadway Intersection Guidelines section).

There is a subcategory of secondary trailheads based on the expected usage, visibility, and access, which affects the landscape treatment and scale of the trailhead. It will be determined during the design development phase of each reach, with community input determining into which subcategory each secondary trailhead falls. Those that connect the greenway to minor thoroughfares or larger streets that are highly visible or are expected to be used by a high volume of greenway users are categorized as “main” secondary trailheads.

## materials

Pedestrian path materials will be consistent with adjacent existing sidewalks.

Removable/lockable bollards for traffic and access control may be necessary where the trailhead abuts a street.

Greenway identification signs shall be included at main secondary trailheads.

Main secondary trailheads shall incorporate a sculpture at one corner. The purpose of the sculpture will be to identify the location of the trailhead and greenway, and express the character of the community in which it is located. The design of the sculpture will receive public input during the design development phase of the reach and be created by a local artist. The sculptures will be mounted on a standard plinth of stone or brick. (See illustration page 73).

## scale

Scale shall be determined on a case-by-case basis in the design development phase of each reach.

## design

Facilities may include drinking fountains, benches, signage, and lighting.

Vehicular access shall be limited to police, maintenance, and other public safety emergency vehicles.



This illustration depicts the components typically found at a main secondary trailhead. A less used secondary trailhead would not typically have a bench or identification sign.



# TRAIL & ROADWAY INTERSECTION GUIDELINES

## definition

Intersections between the greenway trail and vehicular roadways.

## materials

Pedestrian path materials will be consistent with adjacent existing sidewalks. Raised and marked crosswalks with refuge islands should be utilized at mid-block crossings.

Pedestrian traffic signals and signage will be an important component of trail and roadway intersections, particularly at mid-block crossings in order to reduce conflicts and increase safety.

Railings and guardrails shall be utilized where necessary.

## scale

Scale shall be determined on a case-by-case basis.

## design

Where possible at intersections, the greenway user shall have the option to pass under the street, connect to other sidewalks along the street, or cross at street level. At a minimum, one of these crossings must conform to ADA requirements. Utilize existing overhead roadway bridges or culverts that are large enough to accommodate trail uses.

See appendix for a planning analysis of each trail and roadway intersection.

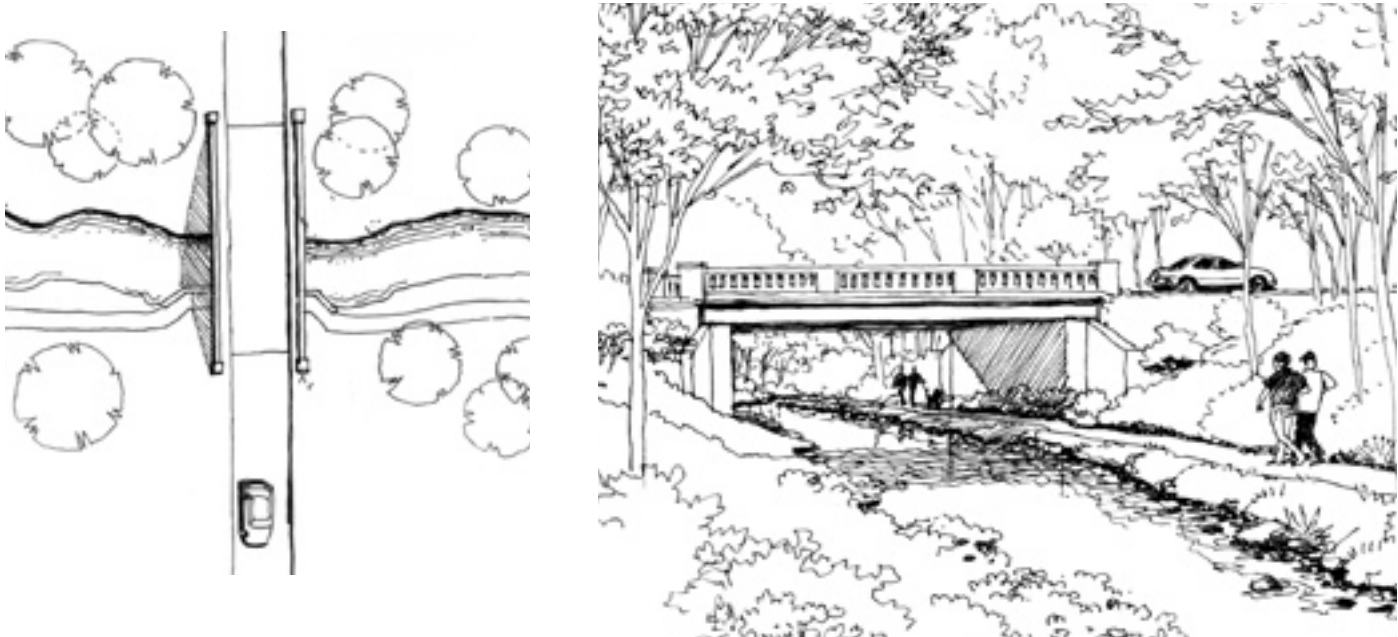


Illustration of underpass only  
Example: Interstate 485

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Example of underpass only.

## underpass connection

Provide minimum 10-foot vertical clearance and 10-foot horizontal clearance with the finished trail elevation at or above the 10-year storm elevation.

Provide safety lights in underpasses and tunnels, while utilizing natural daylight as much as possible.

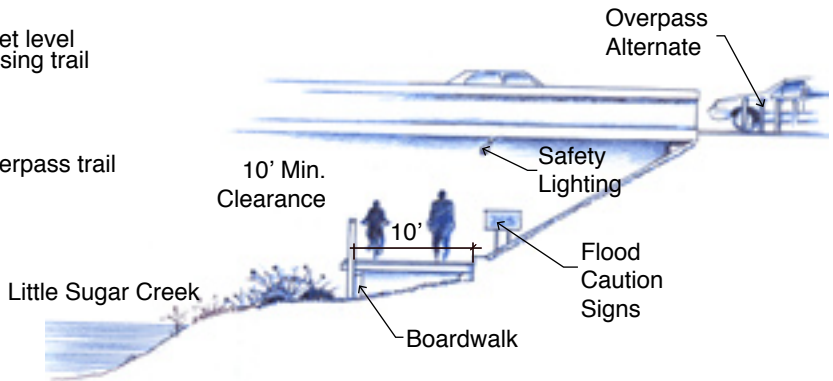
Clear visual obstructions from trail user approaches to underpass locations.

Provide proper drainage to avoid ponding and sediment build up within the underpass.

Warn trail users of seasonal hazards such as flooding and icing through signage.



Example of ideal street crossing condition, underpass with a street level crossing and connection to sidewalks.



Typical components of the ideal underpass crossing.



Illustration of underpass with street level crossing and connection, the ideal crossing condition.  
Example: Park Road



# at grade connection



At grade connections occur when there is a constraint that will not allow the trail to pass under a road that crosses the creek. The trail is located at street level, and most often will utilize existing street sidewalks and crosswalks to cross the street. This photo is taken at 10th Street, just before Little Sugar Creek is crossed by I-277.

Provide adequate sight distance for trail users and motorists with siting, clearing, and other strategies.

Warn motorists of upcoming trail crossings with pedestrian crossings signage. Warn pedestrians and bicyclist of upcoming road crossings with signage.

Minimize length of crossing.

Minimize locating these crossings in areas where steep side slopes are created, making them susceptible to erosion.

Provide median refuge areas where curb to curb distance is wider than 75 feet.

Use removable/lockable bollards to keep vehicular traffic off the greenway, while allowing entry for public safety and service vehicles.

Clearly indicate right of way priority.

Install marked/painted pedestrian crossing or pedestrian crossing in combination with a speed table where possible.

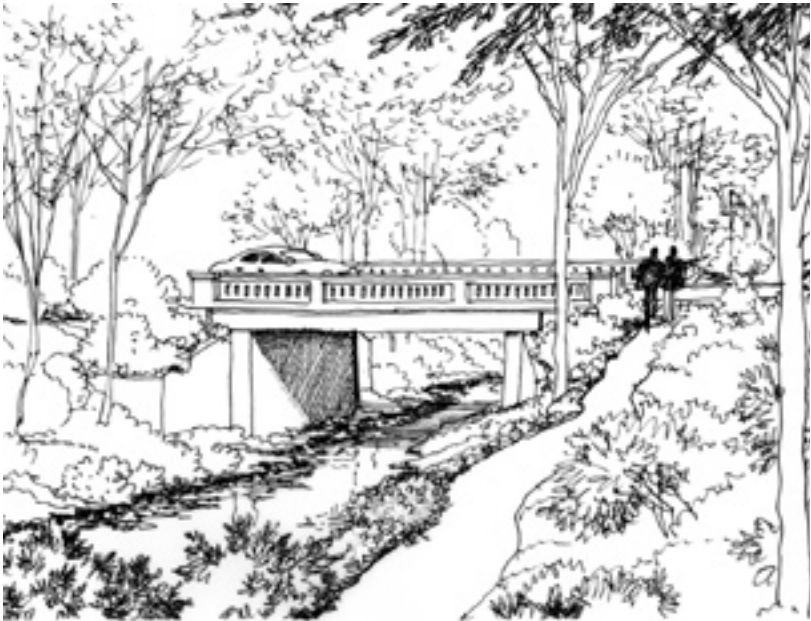
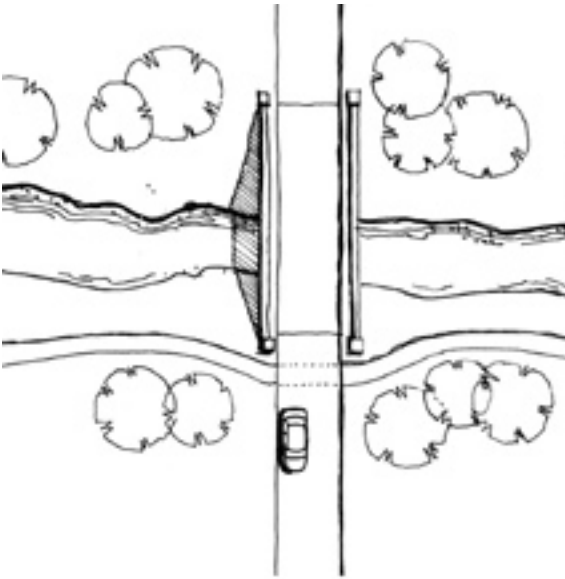


Illustration of an at-grade crossing, where it is not possible to take the trail under the street. Example: Parkwood Avenue

# mid-block connection



Marking the street and including refuge islands are the preferred treatments for midblock crossings.



Bollards and pedestrian warning signage such as a stop sign are safety components for greenway trail and road intersections.



Bicyclists will access the greenway trail from existing bicycle lanes on the street

Selection of the intersections and the treatments thereof shall meet CDOT “Pedestrian Mid-Block Crossing Policy” within the City of Charlotte and its ETJ area.

Pedestrian safety shall be of the utmost priority.

Intersections should be designed to avoid any conflict between trail users and motorists.

Coordinate with the appropriate Department of Transportation for crossings.

Install marked/painted pedestrian crossing or pedestrian crossing in combination with a speed table where possible. Pedestrian refuge medians shall be used when possible, especially when crossing thoroughfares.

Employ stop sign for greenway users and caution signs/lights for vehicular traffic.

Install removable/lockable bollards to keep vehicular traffic out and to signal that a road crossing is occurring ahead.

Utilize warning signage and pedestrian traffic signals at all intersections between the greenway trail and vehicular streets.

# bike lane connections to city and county-wide bike system

Provide smooth turning/transition connections to and from the greenway trails.

Provide detectable pavement material changes and warning signs at approaching connection points for pedestrians and cyclists.

Minimize creation of these connections at the bottom of steep slopes in order to prevent stopping difficulties.



# pedestrian bridges



Standard pedestrian bridges to be used.

Bridge design should coordinate with the Mecklenburg County Park System standard prefabricated span bridges.

All pedestrian bridges shall meet all governmental safety requirements and shall be structurally engineered to support proposed uses.

All pedestrian bridges that cross Little Sugar Creek and are located in the floodway must have a “No Rise” certificate.

Crossings in the flood fringe require only a Floodlands Development Permit.

Pedestrian bridges passing over tributaries and storm water ditches shall be made to match greenway boardwalk.

Bridge abutments shall be placed outside of the streamside zone when possible.

Additional culverts may be used if existing or proposed bridges do not span the floodplain adequately.

## pedestrian bridge improvements

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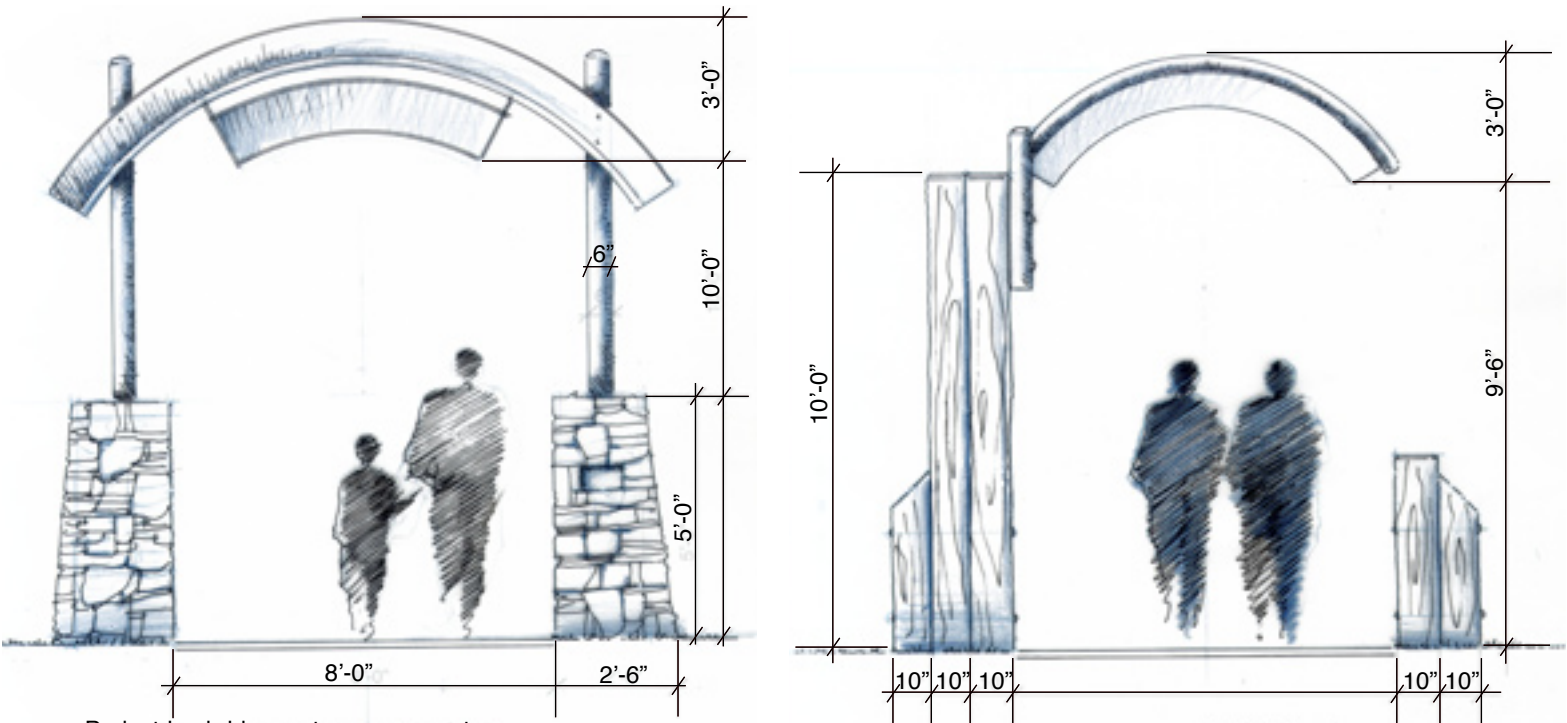
These sketches illustrate design themes for the pedestrian bridge improvements. Through the varying combinations of materials, the urban, suburban, and rural nature of the reaches can be expressed.

### materials

Approved materials are brick, stone, metal, and native species wood.

### design

The combination of these materials will express the character of the reach or neighborhood.



# vehicular bridge enhancements

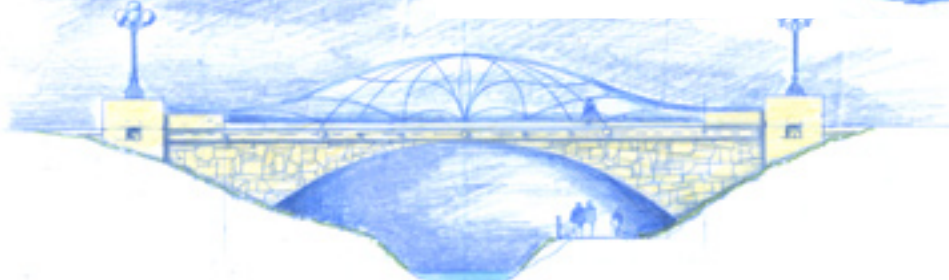
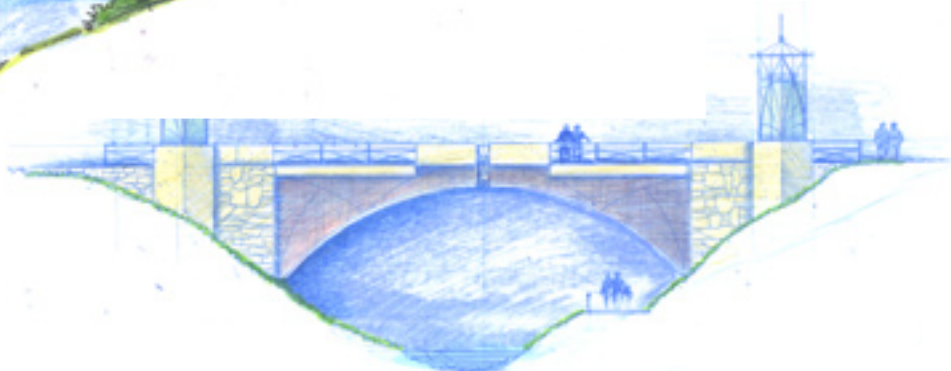


Example of bridge improvements in Ballantyne, Charlotte, North Carolina

Where the greenway trail must utilize existing vehicular bridges for access, it is important to maintain the pedestrian scale of the greenway through the introduction of pedestrian scaled items on the bridges to increase safety by giving pedestrians a greater visual presence.

Aesthetic improvements shall be made to increase the visibility of the greenway and to increase the beautification of bridges in the context of the greenway and the greater context of Mecklenburg County.

Routine maintenance must be performed to ensure the safety of the greenway trail users.



Illustrations of bridge improvements possibilities.



# LANDSCAPE GUIDELINES

## definition

The use of planting to aesthetically improve, screen, or define the spaces along the greenway.

## materials

Selected plant species shall be suitable for existing site and soil conditions, and shall naturally occur within the ecoregion of the Southeastern United States. Plant materials will be selected by the Mecklenburg County Department of Park and Recreation’s horticulture professionals with comprehensive evaluation with the County’s Cooperative Extension Service.

Plants will be low maintenance and portray the character of the greenway. The use of formal plants, particularly those requiring pruning, is not recommended.

## scale

The scale of the plant materials shall range from perennials to large maturing trees based on their location and shall meet sight clearance requirements.

## general design

Emphasize the conservation of natural/heritage habitat.

Equality of landscape treatment along the greenway will be ensured by proportionate allotment of funds for each component of the greenway. (See Appendix for cost estimate.)

Enhance the riparian buffer to increase water quality, storm water management features, shoreline stabilization, and aesthetics.

Streamside plantings shall be chosen from the Stream Buffer Planting Schedule, Appendix D of the S.W.I.M. Buffer ordinance.

Define/enhance edge relationships to adjacent neighborhoods, developments, and open spaces, through citizen participation experiences within these neighborhoods.

Frame views through use of tree massing.

Provide buffers between the greenway and roadways in order to minimize undesirable traffic noise and views.

Remove or control invasive plants, such as privet, vinca, and kudzu. Reference “Invasive Exotic Plant Species of the Southeastern United States” by North Carolina Botanical Garden, Totten Center, Chapel Hill, North Carolina.

Plants listed on “The Dirty Dozen List” shall be removed by a minimum of 26 feet on either side of trails.

See Mecklenburg County Storm Water Services’ “Plant Species” recommended for storm water management.

Preserve existing bottomland hardwoods, upland hardwoods, and the Heath Bluff community plantings along the lower part of Little Sugar Creek where the natural stream sinuosity exists.

Provide shade for stream waters to improve stream habitats and water quality.

Planting shall be incorporated based on the models presented in this section. Changes to these models may occur, but shall require approvals and funding in accordance with the Park and Recreation Department.

# landscape treatment for trailheads



Ornamental gardens at primary trailheads shall utilize native plant material.



Landscaping along the primary trailheads shall be formal. Hardscaping shall be limited to stone and brick.

## primary trailheads

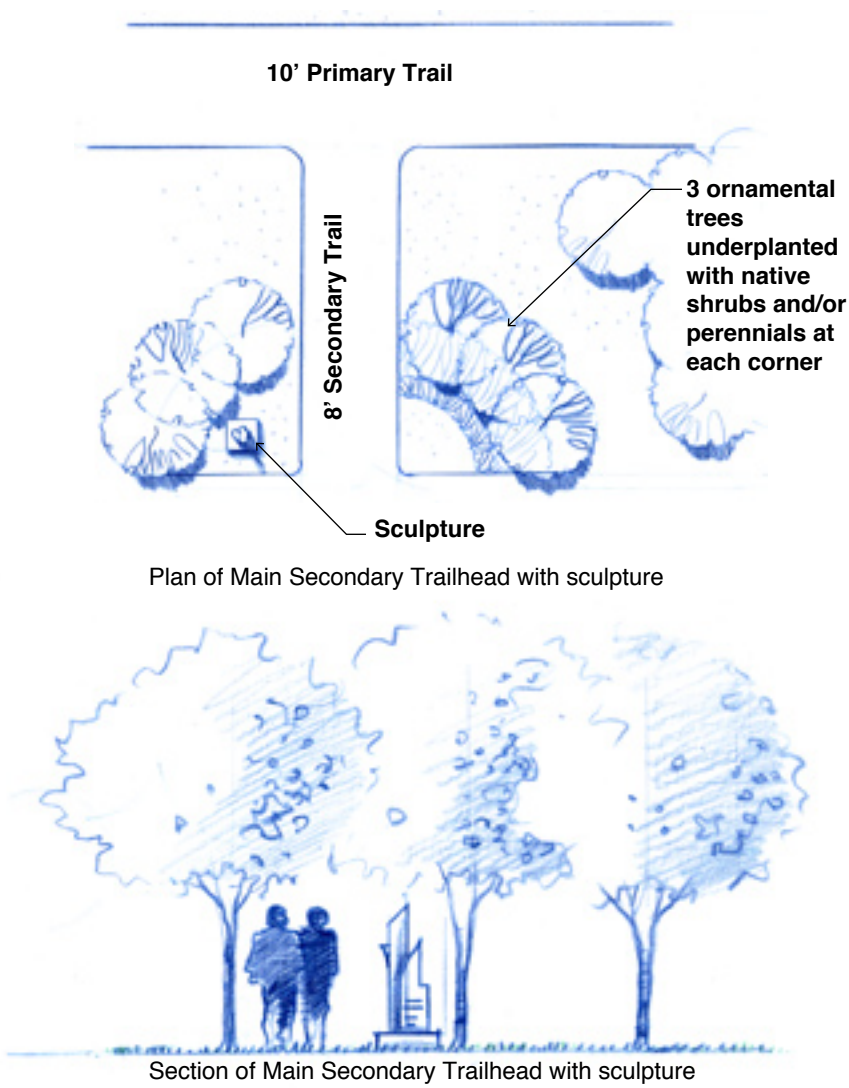
- Plantings at these trailheads shall be a priority and be typically formal in nature.
- All plantings shall be native.
- Hard landscaping materials shall be limited to stone and brick.
- Paths within the primary trailhead shall be concrete, brick, or pavers.
- See page 69 for general components at primary trailheads.
- See cost estimate for landscape budget.

## secondary trailheads

As mentioned in the Greenway and Trail Construction section of the Guidelines, there is a subcategory of secondary trailheads based on the expected usage, visibility, and access that affects the landscape treatment and scale of the trailhead. These trailheads shall be planted based on priority, visibility, expected usage, funding availability and citizen volunteer organizations.

Significant secondary trailheads will be semiformal in nature, with three trees at each corner and an under planting of shrubs or perennials. At one corner, a plinth for the erection of a sculpture shall be incorporated or a location for an identification sign. (See illustration).

At other secondary trailheads the planting shall be informal, with the priority focused on removing weeds and invasive species within the existing vegetation. The treatment of the area will comply with the Clearing and Demolition section of the guidelines. Enhancement of the existing vegetation will be the standard treatment for other secondary trailheads but if there is no existing vegetation, some trees and shrubs may be provided. In such cases this may consist of two to three trees and six to ten shrubs.





# landscape treatment for railway intersections

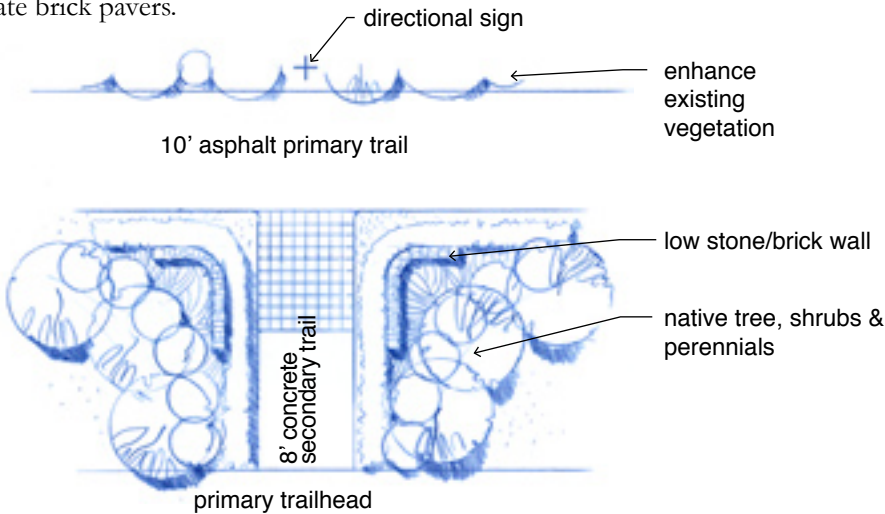
Along the greenway, various trail intersection types have been identified for landscape treatments. They are categorized as follows:



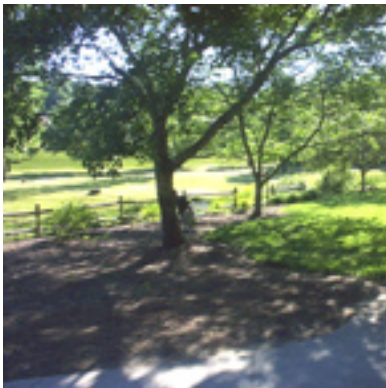
Formal walls, plantings, and pavers will accent type 1 intersections.

## 1. primary and secondary trail intersection at a primary trailhead

- Formal landscaping should occur with the incorporation of bermed landscape beds.
- The intersection could incorporate stone or brick walls.
- The intersection of the secondary trail with the primary trail would be an ideal location to incorporate brick pavers.



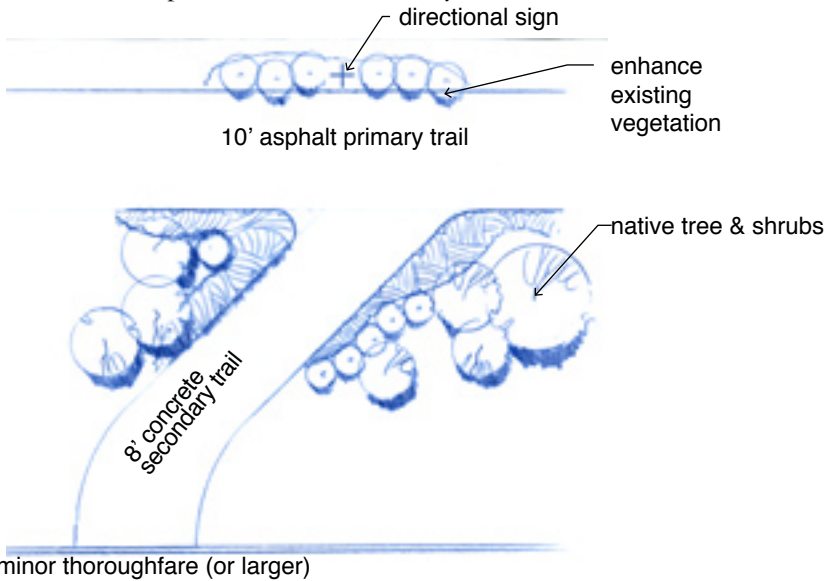
Intersection type 1: Formal with trees, shrubs, perennials, and hardscape treatment.



Informal plantings of shrubs and trees will identify type 2 intersections.

## 2. primary and secondary trail intersections at a significant secondary trailhead

- Informal shrubs and trees should be planted for directional and identification purposes.
- Berms and formal landscape beds are not necessary in these cases.



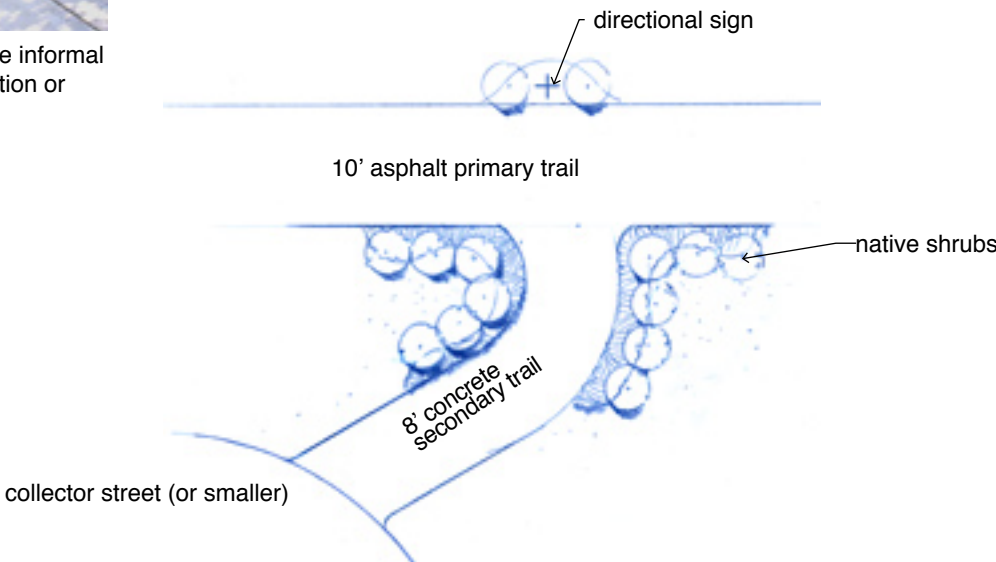
Intersection type 2: Informal with trees, shrubs, perennials.



Type 3 intersections will be informal and utilize existing vegetation or small shrubs.

## 3. primary and secondary trail from secondary trailhead

- Informal shrub plantings can be used in these locations.
- If existing vegetation is sufficient, debris and weeds shall be removed per Clearing and Demolition section of the guidelines.
- These shrubs could be similar in nature to those planted at trail intersection type 2.



Intersection type 3: Minimal landscape treatment.



# landscape treatment for trail edges

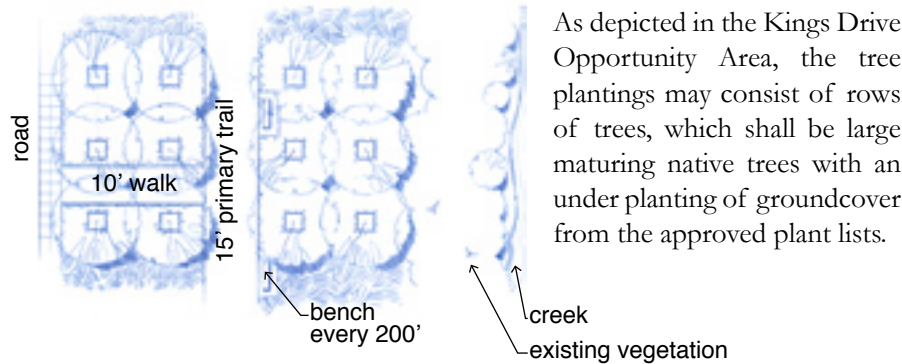
## primary trails

Within this category there are three general trail edge landscape conditions based on the trail location. The edge treatment must adhere to the clear zone requirements of 14 feet.



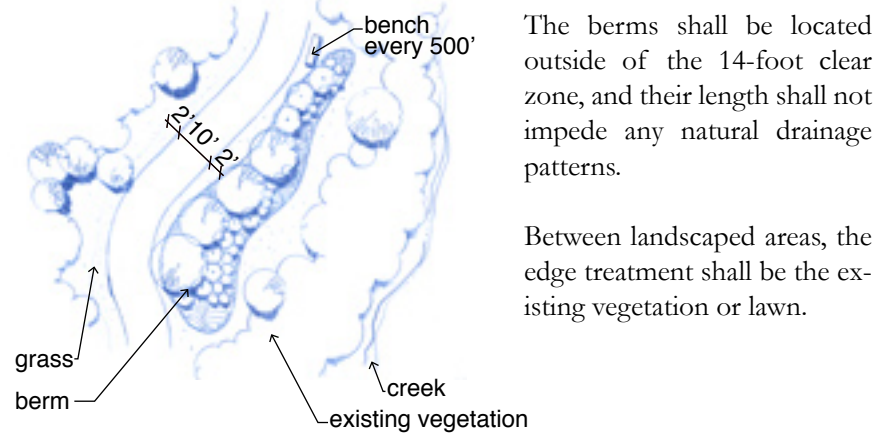
### 1. urban

Plantings in these areas shall be formal in nature and shall consist mainly of large maturing trees and hardscape materials.



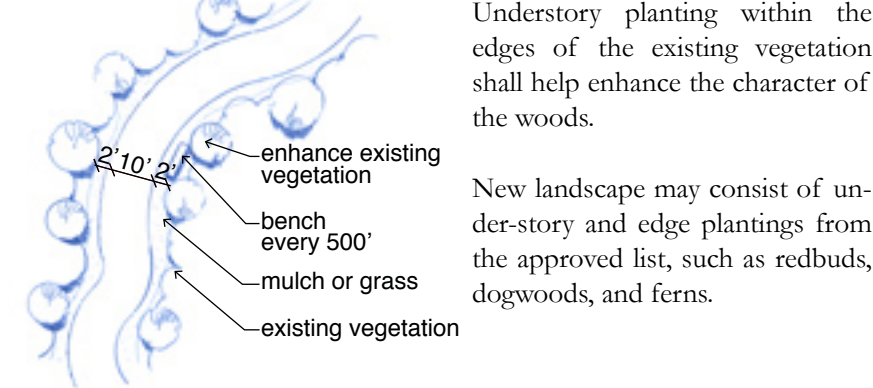
### 2. suburban

These plantings shall be semi-formal in nature and may consist of small maturing native trees, shrubs, perennials, and grasses in landscaped berms.



### 3. rural

The goal in the rural area is to have the landscaping enhance the natural beauty of the existing vegetation.



## secondary trails

Plantings along these trails will not be a priority.

Enhancing the existing vegetation will be the focus and within the 26-foot wide trail path, clearing and limbing will be required in accordance with the Clearing and Demolition section of these guidelines.

Maintenance and restoration of mulched areas shall be the responsibility of the Park and Recreation Department's Park District Maintenance Staff.

## alternate trails

Plantings will not be necessary along alternate trails as part of the Little Sugar Creek Greenway Master Plan.

Some streets have been identified in each reach as needing streetscape improvements. The improvements for these streets should be coordinated with property owners and City - County Departments.



## overlook/viewing areas

Overlook and viewing areas must remain open and free of vegetation that would obstruct the designated view.

Viewing areas may consider views of educational gardens and wetlands created through the Little Sugar Creek Greenway Project.



# STRUCTURES

## definition

Architectural elements along the greenway. The design guidelines will address the following structures:

- Picnic shelters
- Restroom facilities/concessions
- NC/SC greenway welcome center

## materials

The choice of materials for the architecture reflects those that should be used for the whole greenway, in order to unify and brand the 15 miles.

The material choice is derived from two character types found along the greenway: natural and urban. The choice of materials reflects this theme.

**Stone** – Stone is a common element found in Little Sugar Creek. The exact stone selection should reflect the native stone of the creek.

**Brick** – Historically, bricks were made by the banks of the creek. Many buildings in Charlotte, including St. Mary’s Chapel, were made of the clay from Little Sugar Creek’s bank. Brick selection shall be the same for the entire greenway. The brick shall match that of St. Mary’s Chapel.

**Metal** – The use of metal will provide the urban element to structures along the greenway. The metal choice must be appropriate for outdoor usage.

**Wood** – The wood shall be of an indigenous species. The use of wood shall be limited, and shall not be used for walls, except in rural areas.

Materials chosen are meant to reflect the character and nature of the place through a mixture of wood, stone, and metal. This represents the natural stone found in Little Sugar Creek, indigenous species of trees, and the modern urban context of some areas of Little Sugar Creek. The combination of these materials can be altered to reflect the character of the reach; for example, in the urban areas the use of metal could be more pronounced whereas in the rural sections, a combination of wood and stone could be used to reflect a more natural character.

Building materials shall be consistent through all structure design.

Natural materials are the preferred choice in order to blend the facilities with the environment, reinforcing the Park and Recreation motto, “The Natural Place to Be.”

“Green” building practices should be utilized wherever possible. Reference the LEED (Leadership in Energy and Environmental Design) Green Building Rating System, which emphasizes state of the art strategies for sustainable site development, water savings, energy efficiency, materials selection, and indoor environments.



## design

The design sketches illustrate three building types. These sketches are meant to guide the feel of the architecture for the greenway system.

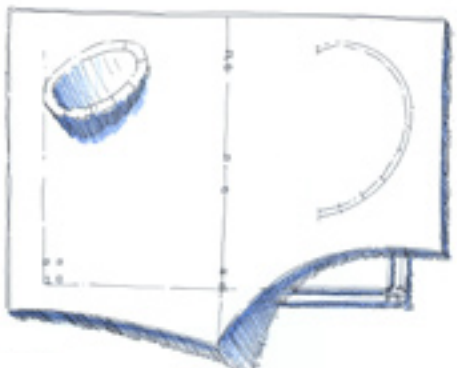
The design theme pays tribute to the Cherokee and Catawba Nations who first inhabited the land in the Catawba watershed. The structures are centered around a common open space, and are built out from the center. The center spaces are kept open to nature, although with some protection from the elements.



The architecture for the greenway emphasizes the Cherokee and Catawba roots. These illustrations depict the circular structure of Native villages from this area. Individual huts are centered around the core.

## picnic shelter

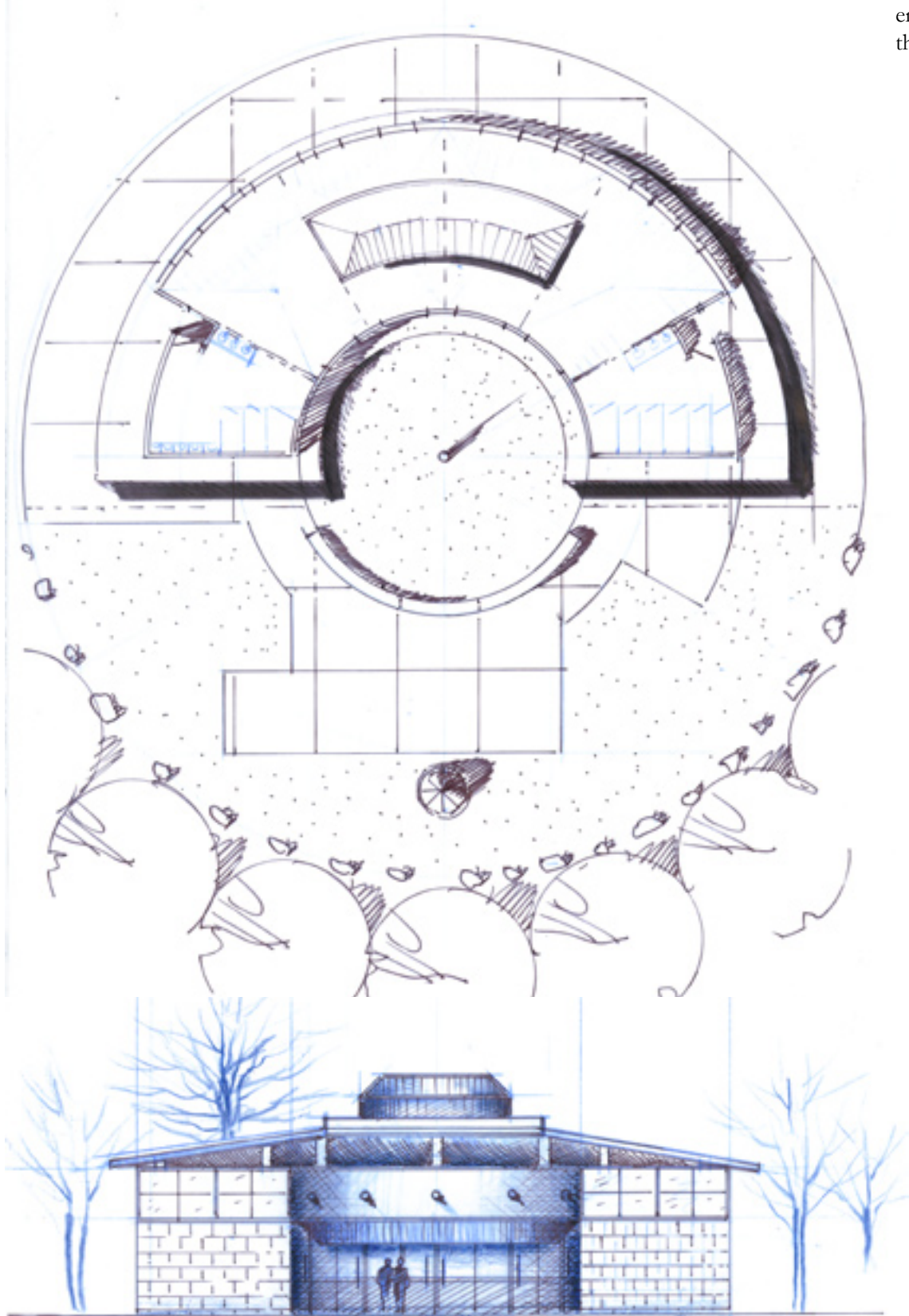
The picnic shelter is the smallest of the greenway structures. It is made out of stone, wood, and metal. It represents the “hut” found in the Cherokee and Catawba villages. The picnic shelter is designed with a grill and is intended for picnickers, but it is also intended to be used for outdoor classrooms. Most of the picnic shelters located on the greenway master plan maps are near schools. The plan has 600 SF of useable space and it could hold two 16 foot picnic tables, seating 24 people total.





## restroom/concession

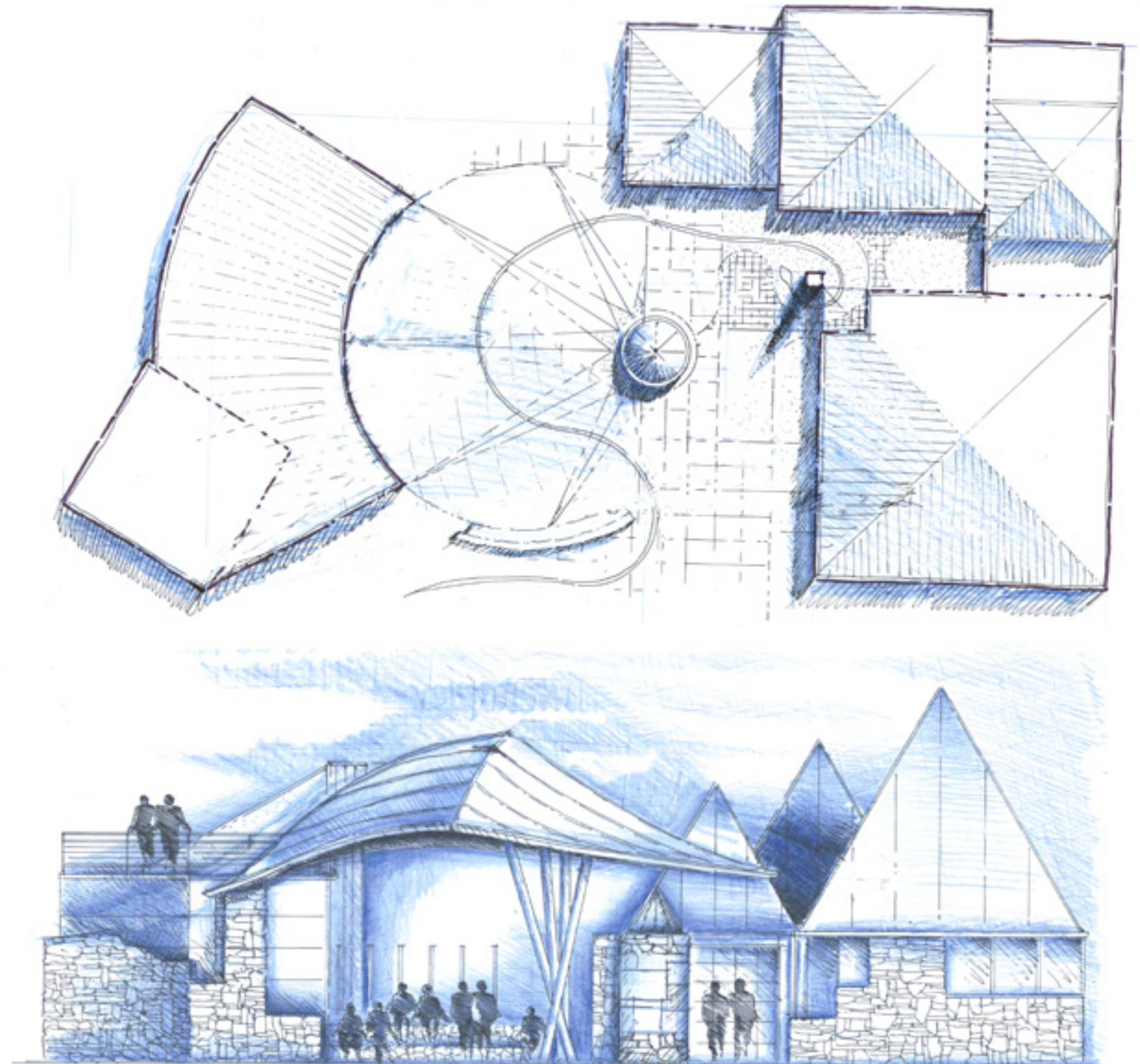
The concession/restroom structure shall house both a place to rent bicycles or buy a refreshment and public restroom facilities. The facilities are designed around a center plaza, which would allow for meeting space and could be used to display native ornamental gardens or art. The plan below shows 320 SF, which consists of 40 SF for 2 restroom facilities and 60 SF for 4 vendor spaces. One of the key features of the design is the flexibility of enlarging or reducing the square footage.



## regional welcome center

This is the largest structure for the Little Sugar Creek Greenway. It is intended to be a regional facility located at the southern end of the greenway, near the South Carolina state line. It shall include a small museum, classroom space, meeting space, restroom facilities, and concessions. The addition of the “huts” or pods makes the design very flexible in terms of its size. The plan below is illustrating 1500 SF.

The building will be surrounded by ornamental gardens of native plants and art work that resembles the style of the Cherokee and Catawba Nations.





# SITE FURNISHINGS

## definition

Furniture elements along the greenway. The design guidelines will address the following structures:

- Benches
- Garbage Receptacles
- Bicycle Racks
- Ornamental Lighting

## design

The site furnishings selected reflect the overall character of Little Sugar Creek Greenway, natural and urban- while recognizing the dichotomy between both landscape types. The furnishings and their materials were selected based on the following criteria: compliment the style and character of the greenway architecture and sign elements; minimize damage from vandalism and pests; require low maintenance; and are weather resistant.

## benches

Bench locations will be determined as each reach is designed in detail. For the purposes of quantifying the number of benches for each reach, 1 bench has been allocated for every 500 feet. In urban areas 1 bench for every 200 feet has been allocated. Benches shall be located at primary trailheads and at “main” secondary trailheads (see page 69).

The contemporary formed bench shown top and middle left shall be used to furnish the urban areas of the greenway.

The more traditional cast-end bench, bottom left, shall be placed in all other areas except urban areas, including rural and suburban areas. Benches in all areas along the greenway shall match with ipe wood for seat and back, and black polyester powder coated arms and legs.

### Bench for Urban Areas

(see photos top and middle left)

74” bench with 2 arms

ipe wood bench, unfinished

aluminum arms and base with black polyester powdercoat finish

### Bench for Suburban and Rural Areas

(see photo bottom left)

72” bench with 3 arms

ipe wood bench, unfinished with rolled edge

aluminum arms and legs with black polyester powdercoat finish



Trash receptacle shall have wteel domed top shown above to keep rain out. Specify black with match- ing solid steel basket.



32 gallon solid steel sheet trash receptacle. Solid steel sides discourage pests. Specify domed top (top photo) and black to match bike rack, benches, and light fixtures.

## trash receptacle

Trash receptacles shall be located at primary entrances, shelters as well as every 1000 feet, except in urban areas where they should be located every 500 feet.

32 gallon solid steel sheet trash receptacle.

Domed steel top

Black polyester powdercoat

Surface flanged mount





Horseshoe-style bike rack. Specify black.



Bike rack is made to lock up 2 bicycles.

# bike rack

Bike racks shall be located at every Primary Trailhead.

Horse-shoe shaped bike rack  
Metal with black powdercoat  
Dimensions- 36” wide x 32.6” tall



Light fixture pole and shepard's crook arm shown above. Color should be black and reflector bowl should be straight.



The reflector skirt above, has straight lines and measures 30.25” x 23.5”.



The twin version of the pole with Shepard's Crook arm.

# ornamental lighting

Ornamental pedestrian scaled lighting shall be located along the greenway specifically in the 10th to Morehead Sreet Reach. The exact location and numbers shall be determined during the detail design for the area.

## Luminaire

Luminaire shall consist of a bowl style borosilicate prismatic glass optical assembly.

The borosilicate prismatic glass shall be shielded by a flared cutoff spun aluminum reflector that offers full IES cutoff classification.

The ballast Housing will be of Cast Aluminum. The ballast will have a ballast factor of 1.0 to receive full lumen output from the lamp.

The fixture shall be 30-1/4” wide at widest area and 23 1/2” long.

Luminaire will have a door frame attached to flared reflector (skirt) with 3 stainless steel screws for easy access to lamp.

## Arm

Bishop’s Crook Style Arm

Tenon Mounted using a 1 1/2” NPT fitting for luminaire mounting.

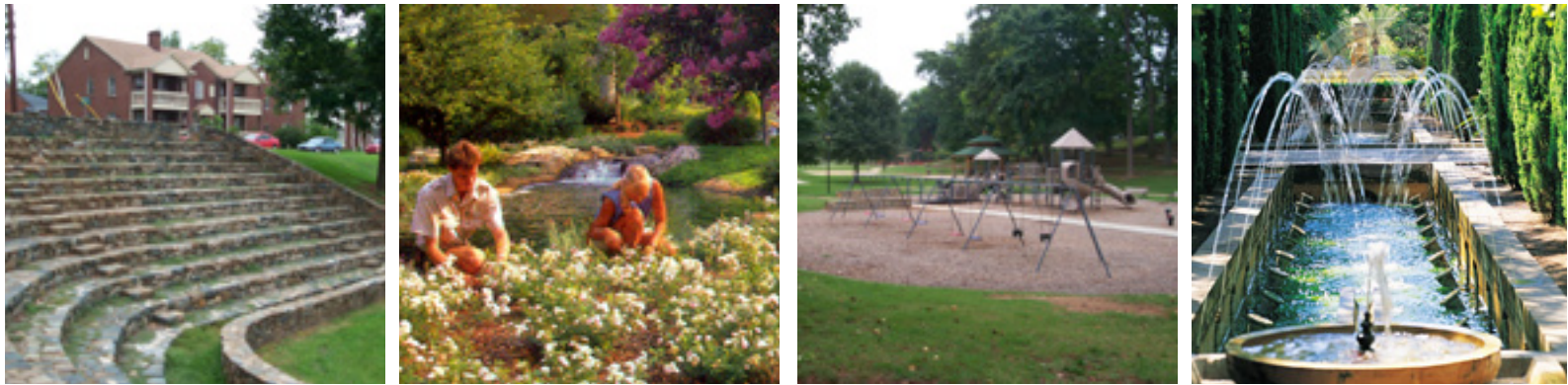
Arm shall be 1 1/2” sch. 80 aluminum pipe.

Arm rises 54” and measure 30” from post center to luminaire center.

Arm is finished with polyester powder paint applied after a seven stage pretreatment process to insure maximum durability (prevent fading).



# SPECIAL AMENITIES



## definition

This section includes greenway components, unique structures, and landscape treatments that are proposed in the Master Plan, based on public input and programming. They have been located in the reaches chapter, and in some cases their general character has been illustrated. The intent is that they will be designed during the design development phase of each reach.

The special amenities along the greenway include

- Amphitheaters
- Fountains/pool(s)
- Ornamental pond(s)
- Community garden(s)
- Education garden(s)
- Play equipment
- Cross-country running trails
- Open space

## design

Amenities shall be located specifically regarding site features, neighborhoods, and proximity to schools, libraries, and other existing parks in order to enhance the natural and cultural qualities and uses of the greenway.

Amphitheater locations are desired at CPCC and Cordelia Park.

All play equipment and other amenities shall comply with ADA standards as well as the Consumer Product Safety Commission guidelines.

Play areas could include educational plaques depicting plants and animals to promote learning and natural environmental awareness.

Special water features such as ponds must be ‘off-line’ with the creek for storm water and creek restoration purposes.

Refer to the reach illustrations for general character of special amenities.

Community/Educational public gardens are to be designed, programmed, and installed by the community or local school if possible. Coordination with Park and Recreation’s Horticulture and Environmental Education Specialists, as well as the Division of Cooperative Extension Services will be necessary.

# MANAGEMENT

Establish a safety and security program through the Department of Park and Recreation’s Safety Coordinator such as an ordinance for the greenway as recommended in the “Mecklenburg County Greenway Masterplan.”

Establish a network of green infrastructure that connects greenway and bikeway systems.

Establish a long-term monitoring program for effectiveness of trail planning and design.

Secure long-term cooperation between CDOT, NCDOT, and the greenway in order to secure future connections and continuation of local and regional transportation such as mass transit, bikeways, and trail system connections to other greenways and parks.

Seek out assistance and cooperation with other jurisdictions regarding maintenance of the trail system outside Mecklenburg County Park and Recreation boundaries.

# ENVIRONMENTAL BEST MANAGEMENT

Utilize conservation easements to preserve existing woodlands and limit soil disturbance.

Incorporate Low Impact Design principles.

Improve current floodplain mitigation efforts through stream bank restoration in order to begin reversing the effects of unchecked storm waters.

Replace disturbed wetlands based on hydrological and soil conditions using native plant materials and incorporating storm water management, greenway trails, and vegetative enhancements to create an overall improvement in compromised locations.

Protect floodplains through mitigation by removing existing structures, minimizing clearing and grading, and restricting new fill, structures, and impervious cover.



# SIGNAGE

Signage package by DESIGN/JOE SONDERMAN



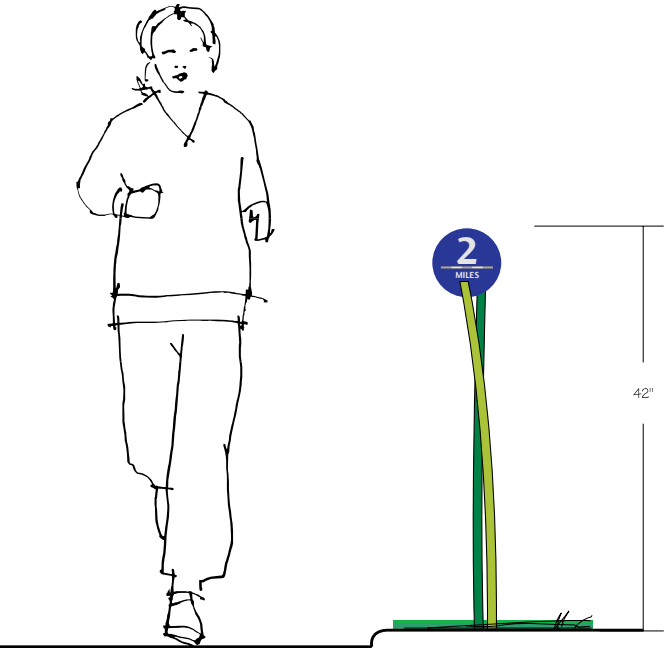
ELEVATION

MAIN ENTRY



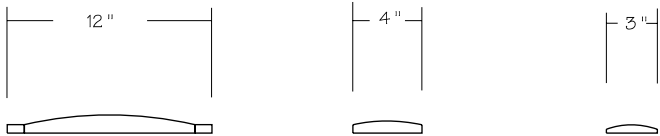
ELEVATION

INFORMATION KIOSK



ELEVATION

MILE MARKER



SECTION



PLAN VIEW

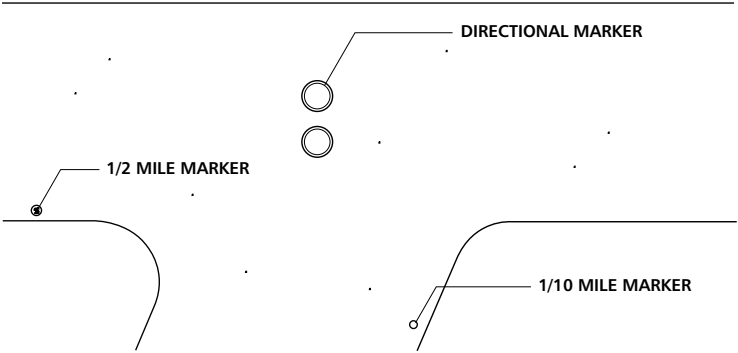
DIRECTIONAL MARKER



1/2 MILE MARKER



1/10 MILE MARKER



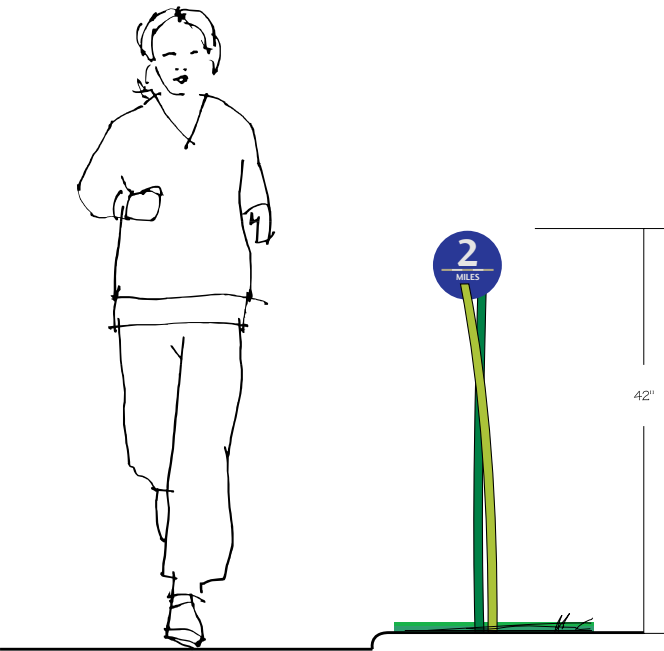
INTERSECTION OF TRAILWAYS

EMBEDDED MARKER APPLICATIONS



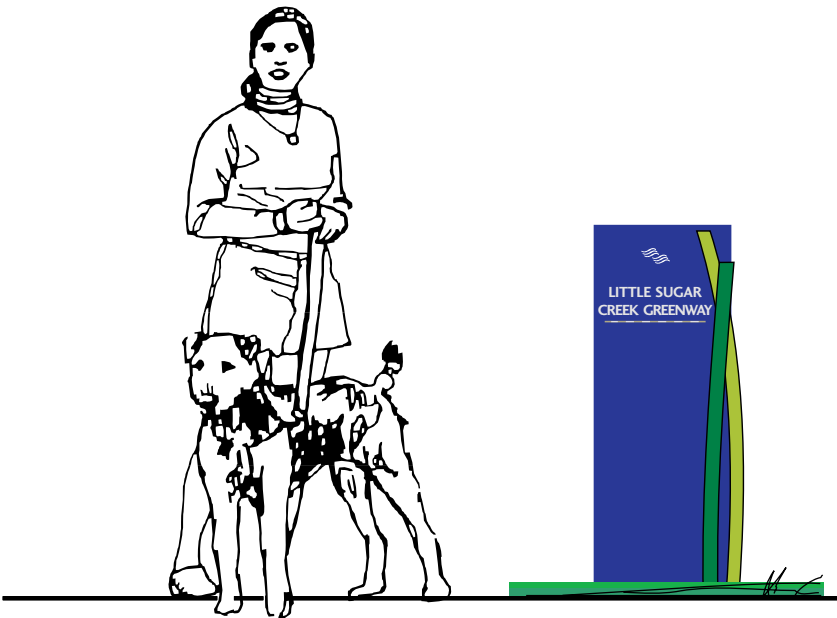






ELEVATION

MILE MARKER



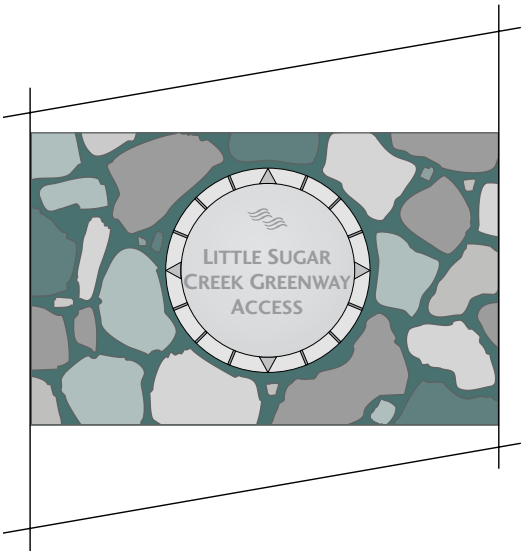
ELEVATION

NEIGHBORHOOD ENTRY Ð TRAILSIDE PYLON (OPTION)



PLAN VIEW

NEIGHBORHOOD ENTRY Ð TRAILSIDE (OPTION)



PLAN VIEW

NEIGHBORHOOD ENTRY Ð EMBEDDED (OPTION)